

Claim Amendments

Claims 1-18 (Cancelled)

19. (Currently amended) A method for testing a fuel injector, comprising the steps of:

placing a fuel injector in a sleeve;

with the sleeve, mechanically isolating at least one test volume ~~[[of]]~~ within the fuel injector ~~that is disposed within a sleeve;~~

changing the amount of air in the at least one test volume; and

testing the at least one test volume for air leakage.

20. (Previously presented) The method for testing a fuel injector of Claim 19, further comprising the step of sealably engaging at least two O-rings on the fuel injector with at least two interfaces on the sleeve.

21. (Previously presented) The method for testing a fuel injector of Claim 19, further comprising the steps of:

adding air to the at least one test volume until the at least one test volume reaches a selected pressure level; and

after a time period, determining whether the at least one test volume has a pressure less than a tolerance below the selected pressure level.

22. (Previously presented) The method for testing a fuel injector of Claim 21, wherein the selected pressure level is in the range of about 31 inches Hg (787 Torr) through about 35 inches Hg (889 Torr); wherein the time period is in the range of about 5 minutes through about 7 minutes; and wherein the tolerance is in the range of about 0 through about 0.5 inches of Hg (11 Torr).

23. (Previously presented) The method for testing a fuel injector of Claim 19, further comprising the steps of:

removing air from the at least one test volume until the at least one test volume reaches a selected vacuum level; and

after a time period, determining whether the at least one test volume has a pressure more than a tolerance above the selected vacuum level.

24. (Previously presented) The method for testing a fuel injector of Claim 23, wherein the selected vacuum level is in the range of about 25 inches Hg (635 Torr) through about 29 inches Hg (737 Torr), wherein the time period is in the range of about 5 minutes through about 7 minutes, and wherein the tolerance is in the range of about 0 through about 0.5 inches of Hg (11 Torr).

25. (Currently amended) ~~[[The]] A method for testing a fuel injector of Claim 19,~~
further comprising the steps of:

placing the fuel injector in a sleeve;

with the sleeve, mechanically isolating at least one test volume within the fuel injector;

changing the amount of air in the at least one test volume;

testing the at least one test volume for air leakage;

removing the fuel injector from the sleeve;

inserting a test plug in the sleeve;

mechanically isolating at least one check volume of the test plug with the sleeve;

changing the amount of air in the at least one check volume; and

testing the at least one check volume for air leakage.

26. (Previously presented) The method for testing a fuel injector of Claim 25,
further comprising the step of sealably engaging at least two O-rings on the test
plug with at least two interfaces on the sleeve.

27. (Previously presented) The method for testing a fuel injector of Claim 25, further comprising the steps of:

adding air to the at least one check volume until the at least one check volume reaches a selected pressure level; and

after a time period, determining whether the at least one check volume has a pressure less than a tolerance below the selected pressure level.

28. (Previously presented) The method for testing a fuel injector of Claim 27, wherein the selected pressure level is in the range of about 31 inches Hg (787 Torr) through about 35 inches Hg (889 Torr); wherein the time period is in the range of about 5 minutes through about 7 minutes; and wherein the tolerance is in the range of about 0 through about 0.5 inches of Hg (11 Torr).

29. (Previously presented) The method for testing a fuel injector of Claim 25, further comprising the steps of:

removing air from the at least one check volume until the at least one check volume reaches a selected vacuum level; and

after a time period, determining whether the at least one check volume has a pressure less than a tolerance below the selected vacuum level.

30. (Previously presented) The method for testing a fuel injector of Claim 29, wherein the selected vacuum level is in the range of about 25 inches Hg (635 Torr) through about 29 inches Hg (737 Torr), wherein the time period is in the range of about 5 minutes through about 7 minutes, and wherein the tolerance is in the range of about 0 through about 0.5 inches of Hg (11 Torr).

31. (Original) The method for testing a fuel injector of Claim 19, where the fuel injector is a hydraulically activated electronically controlled unit injection (HEUI) fuel injector.

32. (Currently amended) A method for testing a fuel injector, comprising the steps of:

placing the fuel injector in a sleeve, the sleeve having an inside surface;

mechanically isolating at least one test volume, the test volume partially disposed within the fuel injector of a fuel injector that is disposed in within a sleeve having an inside surface;

changing an amount of air in the at least one test volume by using an air displacement mechanism connected to the test volume through a tube; and

testing the at least one test volume for air leakage.

33. (Previously presented) The method for testing a fuel injector of claim 32, wherein the step of changing an amount of air in the at least one test volume includes:

connecting an air passage to the tube;

connecting an air pump to the air passage;

attaching a pressure gauge to the air passage;

connecting a valve to the air passage, the valve disposed between the air pump and the pressure gauge;

operating the air pump.